10 CSR 20-7.015 Effluent Regulations

PURPOSE: This rule sets forth the limits for various pollutants which are discharged to the various waters of the state. The two previous rules 10 CSR 20-6.050 and 10 CSR 20- 7.010 have been rescinded and this rule combines certain aspects of both rules and modifies the format of the effluent regulations.

PUBLISHER'S NOTE: The secretary of state has determined that the publication of the entire text of the material which is incorporated by reference as a portion of this rule would be unduly cumbersome or expensive. This material as incorporated by reference in this rule shall be maintained by the agency at its headquarters and shall be made available to the public for inspection and copying at no more than the actual cost of reproduction. This note applies only to the reference material. The entire text of the rule is printed here.

(1) Designations of Waters of the State.

(A) For the purpose of this rule, the waters of the state are divided into the following categories:

1. The Missouri and Mississippi Rivers **(section (2) of this rule)**;
2. Lakes and reservoirs, including natural lakes and any impoundments created by the construction of a dam across any waterway or watershed. An impoundment designed for or used as a disposal site for tailings or sediment from a mine or mill shall be considered a wastewater treatment device and not a lake or reservoir. Releases to lakes and reservoirs include discharges into streams one-half (1/2) stream mile (.80 km) before the stream enters the lake as measured to its normal full pool **(section (3) of this rule)**;
3. A losing stream is a stream which distributes thirty percent (30%) or more of its flow through natural processes such as through permeable geologic materials into a bedrock aquifer within two (2) miles[’] flow distance downstream of an existing or proposed discharge. Flow measurements to determine percentage of water loss must be corrected to approximate the seven (7)-day Q10 stream flow. If a stream bed or drainage way has an intermittent flow or a flow insufficient to measure in accordance with this rule, it may be determined to be a losing stream on the basis of channel development, valley

configuration, vegetation development, dye tracing studies, bedrock characteristics, geographical data, and other geological factors. Only discharges which in the opinion of the Missouri Department of Natural Resources **(department)** reach the losing section and which occur within two (2) miles upstream of the losing section of the stream shall be considered releases to a losing stream. A list of known losing streams is available in the Water Quality Standards, 10 CSR 20-7.031 Table J—Losing Streams. Other streams may be determined to be losing by the department **(section (4) of this rule)**;

4. Metropolitan no-discharge streams. These streams and the limitations on discharging to them are listed in *[the commission's]* **Table F of** *[Water Quality Standards]*10 CSR 20- 7.031 **Water Quality Standards**. This rule shall in no way change, amend, or be construed to allow a violation of the existing or future water quality standards **(section (5) of this rule)**;
5 Special streams—*[wild and scenic rivers, Ozark National Scenic Riverways]* **Outstanding National Resource Waters***[,]* and Outstanding State Resource Waters**, as listed in Tables D and E of 10 CSR20-7.031(section (6) of this rule)**;
6. Subsurface waters in aquifers **(section (7) of this rule)**; and
7. All other waters except as noted in paragraphs (1)(A)1.–6. of this rule **(section (8) of this rule)**.

(B) Sections (2) though (8) of this rule establish requirements for discharges to the waters specified in these sections, and the requirements of section (9) apply to all discharges.

(2) Effluent Limitations for the Missouri and Mississippi Rivers. The following limitations represent the maximum amount of pollutants which may be discharged from any point source, water contaminant source, or wastewater treatment facility.

(A) Discharges from wastewater treatment facilities which receive primarily domestic waste or from publicly-owned treatment works (POTWs) shall undergo treatment sufficient to conform to the following limitations:

1. Biochemical Oxygen Demand5 (BOD5) and Total Suspended Solids (TSS) equal to or less than a monthly

average of thirty milligrams per liter (30 mg/L) and a weekly average of forty-five milligrams per liter (45 mg/L);

[2. pH shall be maintained in the range from six and one-half to nine (6.5–9.0) standard units;]

*[3]***2**. Exceptions to paragraphs (2)(A)1. and*[2.]***(9)(B)1.** of this rule are as follows:

A. If the facility is a wastewater lagoon, the TSS shall be equal to or less than a monthly average of eighty milligrams per liter (80 mg/L) and a weekly average of one hundred twenty milligrams per liter (120 mg/L) and the pH shall be maintained above six and one-half (6.5), and the BOD5 shall be equal to or less than a monthly average of forty-five milligrams per liter (45 mg/L) and a weekly average of sixty-five milligrams per liter (65 mg/L);

B. If the facility is a trickling filter plant the BOD5 and TSS shall be equal to or less than a monthly average of forty-five milligrams per liter (45 mg/L) and a weekly average of sixty-five milligrams per liter (65 mg/L);

C. Where the use of effluent limitations set forward in this section is known or expected to produce an effluent tha**t** will endanger or violate water quality, the department will set specific effluent limitations for individual dischargers to protect the water quality of the receiving streams. When a waste load allocation or a total maximum daily load study is conducted for a stream or stream segment, all permits for discharges in the study area shall be modified to reflect the limits established in the study;

D. The department may require more stringent limitations than authorized in subsection *[(3)]**(2)*(A) of this rule under the following conditions:

(I) If the facility is an existing facility, the department may set the BOD5 and TSS limits based upon an analysis of the past

performance, rounded up to the next five milligrams per liter (5 mg/L) range; and

(II) If the facility is a new facility, the department may set the BOD5 and TSS limits based upon the design capabilities of the plant considering geographical and climatic conditions;

(a) A design capability study has been conducted for new lagoon systems. The study reflects that the effluent limitations should be BOD5 equal to or less than a monthly average of forty-five milligrams per liter (45 mg/L) and a weekly average of sixty-five milligrams per liter (65 mg/L) and TSS equal to or less than a monthly average of seventy milligrams per liter (70 mg/L) and a weekly average of one hundred ten milligrams per liter (110 mg/L).

(b) A design capability study has been conducted for new trickling filter systems and the study reflects that the effluent limitations should be BOD5 and TSS equal to or less than a monthly average of forty milligrams per liter (40 mg/L) and a weekly average of sixty milligrams per liter (60 mg/L);

[4. E. coli: Discharges to segments designated as whole body contact recreational or secondary contact recreational in Table H of 10 CSR 20-7.031 shall not exceed the water quality E. coli counts established in 10 CSR 20-7.031(4)(C)2. Facilities without disinfected effluent shall comply with the implementation schedule found in subsection (9)(H) of this rule. During periods of wet weather, a temporary suspension of accountability for bacteria standards may be established through the process described in subsection (9)(I) of this rule;]

*[5]***3**. Sludges removed in the treatment process shall not be discharged. Sludges shall be routinely removed from the wastewater treatment facility and disposed of or used in accordance with a sludge management practice approved by the department; and

*[6]***4**. When the wastewater treatment process causes nitrification which affects the BOD5 reading, the permittee can petition the department to substitute carbonaceous BOD5 in lieu of regular BOD5 testing. If the department concurs that nitrification is occurring, the department will set a carbonaceous BOD5 at five milligrams per liter (5 mg/L) less than the regular BOD5 in the operating permit.

(B) The suspended solids which are present in stream water and which are removed during treatment may be returned to the same body of water from which they were taken, along with any additional suspended solids resulting from the treatment of water to be used as public potable water or industrial purposes using essentially the same process as a public water treatment process. This includes the solids that are removed from potable waters that are withdrawn from wells located in the alluvial valley of the Missouri and Mississippi Rivers.

(C) Monitoring Requirements.

1. The department will develop a wastewater and sludge sampling program based on design flow that shall require, at a minimum, one (1) wastewater sample per year for each fifty thousand (50,000) gallons per day (gpd) of effluent, or fraction thereof, except that—
   A. Point sources that discharge less than twenty-five thousand (25,000) gpd may only be required to submit an annual report;
   B. Point sources that discharge more than one (1) million gallons per day (mgd) will be required, at a minimum, to collect twenty (20) wastewater samples per year unless the applicant can show that the wastewater **effluent has limited variability and produces an effluent that consistently complies with applicable effluent limits***[has a consistent quality, such as once through cooling water or mine dewatering]*, then

the department may set less frequent sampling requirements; **and**

C. Sludge sampling will be established in the permit*[; and*

D. A minimum of one (1) sample shall be collected for E. coli analysis each week during the recreational season from April 1 through October 31. Compliance with the E. coli water quality standard established in paragraph (4)(C)2. of 10 CSR 20-7.031 shall be determined each calendar month by calculating the geometric mean of all of the samples collected each calendar month].

2. Sampling frequency shall be **representative of the discharge during the period the sampling covers (daily, weekly, monthly, seasonally, etc.)***[spread evenly throughout the discharge year. This means that a point source with a continuous discharge shall collect samples on a regular evenly spaced schedule, while point sources with seasonal discharges shall collect samples evenly spaced during the season of discharge]*.

3. Sample types shall be as follows:

A. Samples collected from lagoons may be grab samples;

B. Samples collected from mechanical plants shall be twenty-four (24)-hour composite samples, unless otherwise specified in the operating permit; and

C. Sludge samples will be grab samples unless otherwise specified in the operating permit.

4. The monitoring frequency and sample types stated in **subsection (2)(C)** *[paragraph (2)(D)3.]* of this rule are minimum requirements. The permit writer shall establish monitoring frequencies and sampling types to fulfill the site-specific informational needs of the department.

(3) Effluent Limitations for the Lakes and Reservoirs.

(A) The following limitations represent the maximum amount of pollutants which may be discharged from any point source, water contaminant source, or wastewater treatment facility to a lake or reservoir designated in 10 CSR 20-7.031 as L2 and L3 which is publicly owned. Releases to lakes and reservoirs include discharges into streams one-half (1/2) stream mile (.80

km) before the stream enters the lake as measured to its normal full pool.

1. Discharges from wastewater treatment facilities which receive primarily domestic waste or from POTWs shall undergo treatment sufficient to conform to the following limitations:
   A. BOD5 and TSS equal to or less than a monthly average of twenty milligrams per liter (20 mg/L) and a weekly average of thirty milligrams per liter (30 mg/L);
   B. *[pH shall be maintained in the range from six and one-half to nine (6.5–9.0) standard units;*
   C. E. coli: Discharges to lakes designated as whole body contact recreational or secondary contact recreational in Table G of 10 CSR 20-7.031 shall not exceed the water quality E. coli counts established in paragraph (4)(C)2. of 10 CSR 20-7.031. Facilities without disinfected effluent shall comply with the implementation schedule found in subsection (9)(H) of this rule. During periods of wet weather, a temporary suspension of accountability for bacteria standards may be established through the process described in subsection (9)(I) of this rule;
   D.] Where the use of effluent limitations set forth in section (3) of this rule **are reasonably expected to exceed applicable water quality standards***[is known or expected to produce an effluent that will endanger or violate water quality]*, the department may either—conduct waste load allocation studies in order to arrive at a limitation which protects the water quality of the state or set specific effluent limitations for individual dischargers to protect the water quality of the receiving streams. When a waste load allocation study is conducted for a stream or stream segment, all permits for discharges in the study area shall be modified to reflect the limits established in the waste load allocation study;

*E]***C**. Sludges removed in the treatment process shall not be discharged. Sludges shall be routinely removed from the wastewater treatment facility and disposed of or used in accordance with a sludge management practice approved by the department; and

*[F]***D**. When the wastewater treatment process causes nitrification which affects the BOD5 reading, the permittee can petition the department to substitute carbonaceous BOD5 in lieu of regular BOD5 testing. If the department concurs that nitrification is occurring, the department will set a carbonaceous BOD5 at five milligrams per liter (5 mg/L) less than the regular BOD5 in the operating permit.

(B) Monitoring Requirements.

1. The department will develop a wastewater and sludge sampling program based on design flow that will require, at a minimum, one (1) wastewater sample per year for each twenty-five thousand (25,000) gpd of effluent, or fraction thereof, except that—

   A. Point sources that discharge less than five thousand (5,000) gpd may only be required to submit an annual report;

   B. Point sources that discharge more than one point three (1.3) mgd will be required, at a minimum, to collect fifty-two (52) wastewater samples per year unless the applicant can show that the wastewater **effluent has limited variability and produces an effluent that consistently complies with applicable effluent limits***[has a consistent quality, such as once through cooling water or mine dewatering]*, then the department may set less frequent sampling requirements; **and**

   C. Sludge sampling will be established in the permit*[; and*

   D. A minimum of one (1) sample shall be collected for E. coli analysis each week during the recreational season from April 1 through October 31. Compliance with the E. coli water quality standard

established in paragraph (4)(C)2. of 10 CSR 20-7.031 shall be determined each calendar month by calculating the geometric mean of all of the samples collected each calendar month].

2. Sampling frequency shall be **representative of the discharge during the period the sampling covers (daily, weekly, monthly, seasonally, etc.)***[spread evenly throughout the discharge year. This means that a point source with a continuous discharge shall collect samples on a regular evenly spaced schedule, while point sources with seasonal discharges shall collect samples evenly spaced during the season of discharge]*.
3. Sample types shall be as follows:
   A. Samples collected from lagoons may be grab samples;
   B. Samples collected from mechanical plants shall be twenty-four (24)-hour composite samples, unless otherwise specified in the operating permit; and
   C. Sludge samples shall be grab samples unless otherwise specified in the operating permit.
4. The monitoring frequency and sample types stated in **subsection (3)(C)** *[paragraph (3)(B)3.]*of this rule are minimum requirements. The permit writer shall establish monitoring frequencies and sampling types to fulfill the site-specific informational needs of the department.

(C) For lakes designated in 10 CSR 20- 7.031 as L1, which are primarily used for public drinking water supplies, there will be no discharge into the watersheds above these lakes from domestic or industrial wastewater sources regulated by these rules. Discharges from potable water treatment plants, such as filter wash, may be permitted. Separate storm sewers will be permitted, but only for the transmission of storm water. Discharges permitted prior to the effective date of this requirement may continue to discharge so long as the discharge remains in compliance with its operating permit.

(D) For lakes designated in 10 CSR 20- 7.031 as L3 which are not publicly owned, the discharge limitations shall be those contained in section (8) of this rule.

(E) In addition to other requirements in this section, discharges to Lake Taneycomo and its tributaries between Table Rock Dam

and Power Site Dam (and excluding the discharges from the dams) shall not exceed five tenths milligrams per liter (0.5 mg/L) of phosphorus as a monthly average. Discharges meeting both the following conditions shall be exempt from this requirement:

1. Those permitted prior to May 9, 1994; and
2. Those with design flows of less than twenty-two thousand five hundred (22,500) gpd. All existing facilities whose capacity is increased would be subject to phosphorus limitations. The department may allow the construction and operation of interim facilities without phosphorus control provided their discharges are connected to regional treatment facilities with phosphorus control not later than three (3) years after authorization. Discharges in the White River basin and outside of the area designated above for phosphorus limitations shall be monitored for phosphorus discharges, and the frequency of monitoring shall be the same as that for BOD5 and TSS, but not less than annually. The department may reduce the frequency of monitoring if the monitoring data is sufficient for water quality planning purposes.

(F) In addition to other requirements in this section, discharges to Table Rock Lake watershed, defined as hydrologic units numbered 11010001 and 11010002, shall not exceed five-tenths milligrams per liter (0.5 mg/L) of phosphorus as a monthly average *[according to the following schedules]*except those*[as noted in paragraph (3)(F)5. of this rule.*

1. Any new discharge shall comply with this new requirement upon the start of operations;

2. Any existing discharge, or any sum of discharges operated by a single continuing authority, with a design flow of one (1.0) mgd or greater shall comply no later than November 30, 2003;

3. Any existing discharge, or any sum of discharges operated by a single continuing authority, with a design flow of one-tenth (0.1) mgd or greater, but less than one (1.0) mgd, shall comply no later than November 30, 2007, and shall not exceed one milligram per liter (1.0

mg/L) as a monthly average as soon as possible and no later than November 30, 2003;

4. *Any existing discharge with a design flow of twenty-two thousand five hundred (22,500) gpd or greater, but less than one tenth (0.1) mgd, shall comply no later than November 30, 2007;*
5. *Any]*existing discharge**s** with *[a]*design flow**s** of less than twenty-two thousand five hundred (22,500) gpd permitted prior to November 30, 1990*,[shall be exempt from this requirement]* unless the design flow is increased*[; and*
6. *Any existing discharge in which the design flow is increased shall comply according to the schedule applicable to the final design flow]*.

(4) Effluent Limitations for Losing Streams.

(A) Discharges to losing streams shall be permitted only after other alternatives including land application, discharge to a gaining stream, and connection to a regional wastewater treatment facility have been evaluated and determined to be unacceptable for environmental and/or economic reasons.

(B) If the department agrees to allow a *[release]* **discharge from a wastewater treatment facility** to a losing stream, the permit will be written using the limitations contained in subsections (4)(B) and (C) of this rule. Discharges from **private** wastewater treatment facilities which receive primarily domestic waste**, industrial sources that treat influents containing significant amounts of organic loading,** or *[from]*POTWs permitted under this section shall undergo treatment sufficient to conform to the following limitations:

1. BOD5 equal to or less than a monthly average of ten milligrams per liter (10 mg/L) and a weekly average of fifteen milligrams per liter (15 mg/L);
2. TSS equal to or less than a monthly average of fifteen milligrams per liter (15 mg/L) and a weekly average of twenty milligrams per liter (20 mg/L);

[3. pH shall be maintained in the range from six and one-half to nine (6.5–9.0) standard units;

4. E. coli: Discharges shall not exceed the water quality E. coli counts established in paragraph (4)(C)2. of 10 CSR 20-7.031;]

*[5]***3**. All chlorinated effluent discharges to losing streams or within two (2) stream miles flow distance upstream of a losing stream shall also be dechlorinated prior to discharge;

*[6]***4**. Sludges removed in the treatment process shall not be discharged. Sludges shall be routinely removed from the wastewater treatment facility and disposed of or used in accordance with a sludge management practice approved by the department; *[and*

*7]***5**. When the wastewater treatment process causes nitrification which affects the BOD5 reading, the permittee can petition the department to substitute carbonaceous BOD5 in lieu of regular BOD5 testing. If the department concurs that nitrification is occurring, the department will set a carbonaceous BOD5 at five milligrams per liter (5 mg/L) less than the regular BOD5 in the operating permit*[.]*, **and**

6. For situations in which nitrates in a discharge may impact specific drinking water wells, the concentration of nitrates in the discharge shall be limited to an average monthly limit of ten milligrams per liter (10 mg/L) as nitrogen and a maximum daily limit of twenty milligrams per liter (20 mg/L). Applicants may conduct a study in the same manner as the Missouri Risk-Based Corrective Action Technical Guidance published in 2006 to determine if nitrate limits are necessary to protect groundwater. In such cases, applicants shall submit a quality assurance project plan for approval prior to the study, and submit all findings as part of their permit application;

(C) Monitoring Requirements.

1. The department will develop a wastewater and sludge sampling program based on design flow that shall require, at a minimum, one (1) wastewater sample per year for each twenty-five thousand (25,000) gpd of effluent, or fraction thereof, except that—

   A. Point sources that discharge less than five thousand (5,000) gpd may only be required to submit an annual report;

B. Point sources that discharge more than one point three (1.3) mgd will be required, at a minimum, to collect fifty-two (52) wastewater samples per year unless the applicant can show that the wastewater **effluent has limited variability and produces an effluent that consistently complies with applicable effluent limits***[has a consistent quality, such as once through cooling water or mine dewatering]*, then the department may set less frequent sampling requirements; **and**

C. Sludge samples will be established in the permit; *[and*

D. A minimum of one (1) sample shall be collected for E. coli analysis each week during the recreational season from April 1 through October 31. Compliance with the E. coli water quality standard established in paragraph (4)(C)2. of 10 CSR 20-7.031 shall be determined each calendar month by calculating the geometric mean of all of the samples collected each calendar month.]

2. Sampling frequency shall be **representative of the discharge during the period the sampling covers (daily, weekly, monthly, seasonally, etc.)***[spread evenly throughout the discharge year. This means that a point source with a continuous discharge shall collect samples on a regular evenly spaced schedule, while point sources with seasonal discharges shall collect samples evenly spaced during the season of discharge]*.

3. Sample types shall be as follows:

A. Samples collected from lagoons may be grab samples;

B. Samples collected from mechanical plants shall be twenty-four (24)-hour composite samples, unless otherwise specified in the operating permit; and

C. Sludge samples shall be a grab sample unless otherwise specified in the operating permit.

4. The monitoring frequency and sample types stated in **subsection (4)(C)** *[paragraph (4)(C)3.]* of this rule are minimum requirements. The permit writer shall establish

monitoring frequencies and sampling types to fulfill the site-specific informational needs of the department.

(5) Effluent Limitations for Metropolitan No- Discharge Streams.

(A) Discharge to metropolitan no-discharge streams is prohibited, except as specifically permitted under the Water Quality Standards 10 CSR 20-7.031 and noncontaminated storm water flows.

(B) *[All permits for discharges to these streams shall be written to ensure compliance with the Water Quality Standards.*

*(C)]*Monitoring Requirements.

1. The department will develop a wastewater and sludge sampling program based on design flow that shall require, at a minimum, one (1) wastewater sample per year for each twenty-five thousand (25,000) gpd of effluent, or fraction thereof, except that—

A. Point sources that discharge less than five thousand (5,000) gpd may only be required to submit an annual report;

B. Point sources that discharge more than one point three (1.3) mgd will be required, at a minimum, to collect fifty-two (52) wastewater samples per year; **and**

C. Sludge sampling will be established in the permit;*[and*

D. A minimum of one (1) sample shall be collected for E. coli analysis each week during the recreational season from April 1 through October 31. Compliance with the E. coli water quality standard established in paragraph (4)(C)2. of 10 CSR 20-7.031 shall be determined each calendar month by calculating the geometric mean of all of the samples collected each calendar month].

2. Sampling frequency shall be **representative of the discharge during the period the sampling covers (daily, weekly, monthly, seasonally, etc.)***[spread evenly throughout the discharge year. This means that a point source with a continuous discharge shall collect samples on a regular evenly spaced schedule, while point sources with seasonal discharges shall collect samples evenly spaced during the season of discharge]*.

3. Sample types shall be as follows:
   A. Samples collected from lagoons may be grab samples;
   B. Samples collected from mechanical plants shall be twenty-four (24)-hour composite samples, unless otherwise specified in the operating permit; and
   C. Sludge samples shall be a grab sample unless otherwise specified in the operating permit.
4. The monitoring frequency and sample types stated in **subsection (5)(B)** *[paragraph (5)(C)3.]*of this rule are minimum requirements. The permit writer shall establish monitoring frequencies and sampling types to fulfill the site-specific informational needs of the department.

(6) Effluent Limitations for Special Streams.

(A) Limits for *[Wild and Scenic Rivers and Ozark National Scenic Riverways]***Outstanding National Resource Waters as listed in Table D of 10 CSR 2-7.031** and Drainages Thereto.

1. The following limitations represent the maximum amount of pollutants which may be discharged from any point source, water contaminant source, or wastewater treatment facility to waters included in this section.
2. Discharges from wastewater treatment facilities, which receive primarily domestic waste, or from POTWs are limited as follows:
   A. New releases from any source are prohibited;
   B. Discharges from sources that existed before June 29, 1974, or if additional stream segments are placed in this section, discharges that were permitted at the time of the designation will be allowed.
3. Industrial, agricultural, and other non-domestic contaminant sources, point sources, or wastewater treatment facilities which are not included under subparagraph (6)(A)2.B. of this rule shall not be allowed to discharge. Agrichemical facilities shall be designed and constructed so that all bulk liquid pesticide nonmobile storage containers and all bulk liquid fertilizer nonmobile storage containers are located within a secondary containment facility. Dry bulk pesticides and dry bulk fertilizers shall be stored in a building so that

they are protected from the weather. The floors of the buildings shall be constructed of an approved design and material(s). At an agrichemical facility, all transferring, loading, unloading, mixing, and repackaging of bulk agrichemicals shall be conducted in an operational area. All precipitation collected in the operational containment area or secondary containment area as well as process generated wastewater shall be stored and disposed of in a no-discharge manner.

4. Monitoring requirements.

A. The department will develop a wastewater and sludge sampling program based on design flow that will require, at a minimum, one (1) wastewater sample per year for each twenty-five thousand (25,000) gpd of effluent, or fraction thereof, except that—

(I) Point sources that discharge less than five thousand (5,000) gpd may only be required to submit an annual report;

(II) Point sources that discharge more than one point three (1.3) mgd will be required at a minimum to collect fifty-two (52) wastewater samples per year; and

(III) Sludge sampling will be established in the permit.

B. Sampling frequency shall be **representative of the discharge during the period the sampling covers (daily, weekly, monthly, seasonally, etc.)***[spread evenly throughout the discharge year. This means that a point source with a continuous discharge shall collect samples on a regular evenly spaced schedule, while point sources with seasonal discharges shall collect samples evenly spaced during the season of discharge]*.

C. Sample types shall be as follows:

(I) Samples collected from lagoons may be grab samples;

(II) Samples collected from mechanical plants shall be twenty-four (24)- hour composite

samples, unless otherwise specified in the operating permit; and

(III) Sludge samples shall be a grab sample unless otherwise specified in the operating permit.

D. The monitoring frequency and sample types stated in paragraph (6)*[(D)3]***(A)4**. of this rule are minimum requirements. The permit writer shall establish monitoring frequencies and sampling types to fulfill the site-specific informational needs of the department.

(B) Limits for Outstanding State Resource Waters **as listed in Table E of 10 CSR 2-7.031***[as per Water Quality Standards]*.

1. Discharges shall not cause the current water quality in the streams to be lowered.
2. Discharges will be permitted as long as the requirements of paragraph (6)(B)1. of this rule are met and the limitations in section (8) of this rule are not exceeded.

(7) Effluent Limitations for Subsurface Waters.

(A) No person shall release any water into aquifers, store or dispose of water in a way which causes or permits it to enter aquifers either directly or indirectly unless it meets the appropriate groundwater protection criteria set in 10 CSR 20-7.031, Table A at a point ten feet (10') under the release point except as provided in subsections (7)(E) and (F) of this rule. The permit writer shall review the complete application and other data to determine which parameter to include in the permit.

(B) No wastewater shall be introduced into sinkholes, caves, fissures, or other openings in the ground which do or are reasonably certain to drain into aquifers except as provided in section (4) of this rule.

(C) All abandoned wells and test holes shall be properly plugged or sealed to prevent pollution of subsurface waters, as per the requirements of the department.

(D) Where any wastewater treatment facility or any water contaminant source or point source incorporates the use of land treatment systems which allows or can reasonably be expected to allow wastewater effluents to reach the aquifer. Compliance with subsection (7)(A) of this rule shall be determined by a site-specific monitoring plan.

(E) The effluent limitations specified in subsection (7)(A) of this rule shall not apply to facilities designed and constructed to meet department design criteria provided these designs have been reviewed and approved by the department. The department has the right to require monitoring, reporting, public notice, and other information as deemed appropriate. This exemption may be revoked by the department should any monitoring indicate an adverse effect on a beneficial water use or if the numeric criteria in the Water Quality Standards are being exceeded.

(F) Any person not included in subsection (7)(E) of this rule who releases, stores, or disposes of water in a manner which results in releases of water to an aquifer having concentrations in excess of one (1) or more parameter limitations provided in subsection (7)(A) of this rule may be allowed to resample for purposes of verification of the excess. At their discretion, persons may demonstrate, at the direction of the department, that the impact on the water quality in the aquifer is negligible on the beneficial uses. The demonstration shall consider, at a minimum, the following factors:

1. Site geology;
2. Site geohydrology;
3. Existing and potential water uses;
4. Existing surface water and groundwater quality;
5. Characteristics of wastes or wastewater contained in facilities; and
6. Other items as may be required by the department to assess the proposal.
    A. Demonstrations conducted under 10 CSR 25-18.010 shall be reviewed by the department in accordance with such rules. If the demonstrations show that the impact on groundwater quality will not result in an unreasonable risk to human health or the environment, alternate effluent limitations will be established by the department.
    B. All other demonstrations shall be reviewed by the department. If the demonstrations show that the impact on groundwater quality will not result in an unreasonable risk to human health or the environment, alternate effluent limitation(s) will be

proposed by the department and presented to the Clean Water Commission for approval. The Clean Water Commission has the right to require monitoring, reporting, public notice, and other information as deemed appropriate in the approval of the alternate limitation for one (1) or more parameters from subsection (7)(A) of this rule. The Clean Water Commission may hold a public hearing to secure public comment prior to final action on an alternate limitation.

C. No alternate limitations will be granted which would impair beneficial uses of the aquifer or threaten human health or the environment.

D. Alternate limitations may be revoked by the department should any monitoring indicate an adverse effect on a beneficial water use or violations of the alternate limitation.

(8) Effluent Limitations for All Waters, Except Those in Paragraphs *[(1)(B)1.-6.]***(1)(A)1.–6.** of *[T]***t**his Rule. The following limitations represent the maximum amount of pollutants which may be discharged from any point source, water contaminant source, or wastewater treatment facility.

(A) Discharges from wastewater treatment facilities which receive primarily domestic waste or POTWs shall undergo treatment sufficient to conform to the following limitations:

1. BOD5 and TSS equal to or less than a monthly average of thirty milligrams per liter (30 mg/L) and a weekly average of forty-five milligrams per liter (45 mg/L);

2. *[pH shall be maintained in the range from six and one-half to nine (6.5–9.0) standard units]*;

3.] The limitations of paragraphs (8)(A)1. and *[2.]* **(9)(B)1**of this rule will be effective unless *[a water quality impact study has been conducted by the department, or conducted by the permittee and approved by the department, showing that]* **an** alternate limitation **in subparagraph (8)(A)2.A.** will not cause violations of the Water Quality Standards or impairment of the uses in the standards. When *[a water quality impact study]***an Antidegradation Review** has been completed to the satisfaction of the department **for new or expanded**

discharges, the following alternate limitation may also be allowed:

A. If the facility is a wastewater lagoon, the TSS shall be equal to or less than a monthly average of eighty milligrams per liter (80 mg/L) and a weekly average of one hundred twenty milligrams per liter (120 mg/L) and the pH shall be maintained above six and one-half (6.5) and the BOD5 shall be equal to or less than a monthly average of forty-five milligrams per liter (45 mg/L) and a weekly average of sixty-five milligrams per liter (65 mg/L);

B. If the facility is a trickling filter plant, the BOD5 and TSS shall be equal to or less than a monthly average of forty-five milligrams per liter (45 mg/L) and a weekly average of sixty-five milligrams per liter (65 mg/L);

C. Where the use of effluent limitations set forth in section (8) of this rule is known or expected to produce an effluent that will endanger water quality, the department will set specific effluent limitations for individual dischargers to protect the water quality of the receiving streams. When a waste load allocation study is conducted for a stream or stream segment, all permits for discharges in the study area shall be modified to reflect the limits established in the waste load allocation study; and

D. The department may require more stringent limitations than authorized in *[subsections (3)(A) and (B)]***subparagraphs (8)(A)3.A. and B.** of this rule under the following conditions:

(I) If the facility is an existing facility, the department may set the BOD5 and TSS limits based upon an analysis of the past performance, rounded up to the next five milligrams per liter (5 mg/L) range; and

(II) If the facility is a new facility the department may set the BOD5 and TSS limits based upon the design capabilities of

the plant considering geographical and climatic conditions:

(a) A design capability study has been conducted for new lagoon systems. The study reflects that the effluent limitations should be BOD5 equal to or less than a monthly average of forty-five milligrams per liter (45 mg/L) and a weekly average of sixty-five milligrams per liter (65 mg/L) and TSS equal to or less than a monthly average of seventy milligrams per liter (70 mg/L) and a weekly average of one hundred ten milligrams per liter (110 mg/L); or

(b) A design capability study has been conducted for new trickling filter systems and the study reflects that the effluent limitations should be BOD5 and TSS equal to or less than a monthly average of forty milligrams per liter (40 mg/L) and a weekly average of sixty milligrams per liter (60 mg/L);

[4. E. coli. The following water quality E. coli discharge limits apply to all waters, except those in paragraphs (1)(A)1.-6. of this rule:

A. Discharges to stream segments designated as whole body contact recreational or secondary contact recreational in Table H of 10 CSR 20-7.031 shall not exceed the water quality E. coli counts established in paragraph (4)(C)2. of 10 CSR 20-7.031;

B. Discharges to privately-owned lakes classified as L3, as defined in subsection (1)(F) of 10 CSR 20-7.031, that are designated as whole body contact recreational or secondary contact recreational in Table G of 10 CSR 20-7.031 shall not exceed the water quality E. coli counts established in paragraph (4)(C)2. of 10 CSR 20-7.031.

Discharges include releases into streams one-half (1/2) stream mile (.80 km) before the stream enters the lake as measured to its normal full pool;

C. Discharges located within two (2) miles upstream of stream segments or lakes designated for whole body contact recreational or secondary contact recreational in Tables H and G of 10 CSR 20-7.031 shall not exceed the water quality E. coli counts established in paragraph (4)(C)2. of 10 CSR 20-7.031 for the receiving stream segment or lake designated for those uses. As an alternative, the department may allow permit applicants to conduct a time of travel study for use in developing water quality discharge limits calculated using the following first order decay equation:

$$C0 = C(t)ekt$$

Where:
C0 = concentration of E. coli at the outfall, which becomes the effluent limit;
C(t) = the water quality E. coli count established in paragraph (4)(C)2. of 10 CSR 20- 7.031 for the receiving stream segment or lake that is designated as whole body contact recreational or secondary contact recreational in Tables H and G of 10 CSR 20-7.031;
e = the natural logarithmic constant;
k = decay constant for E. coli (use 0.75 inverse days as a default or value may be determined by sampling analysis); and
t = time required for effluent to flow from the outfall to the confluence with the closest classified receiving stream segment or lake during dry weather conditions in units of days; and

D. Facilities without disinfected effluent shall comply with the implementation schedule found in subsection (9)(H) of this rule. During periods of wet weather, a temporary suspension of accountability for bacteria standards may be established through the process described in subsection (9)(I) of this rule];

*[5]***3**. Sludges removed in the treatment process shall not be discharged. Sludges shall be routinely removed from the wastewater treatment facility and disposed of or used in accordance with a sludge management practice approved by the department; and

*[6]***4**. When the wastewater treatment process causes nitrification which affects the BOD5 reading, the permittee can petition the department to substitute carbonaceous BOD5 in lieu of regular BOD5 testing. If the department concurs that nitrification is occurring, the department will set a carbonaceous BOD5 at five milligrams per liter (5 mg/L) less than the regular BOD5 in the operating permit.

(B) Monitoring Requirements.

1. The department will develop a wastewater and sludge sampling program based on design flow that will require, at a minimum, one (1) wastewater sample per year for each fifty thousand (50,000) gpd of effluent, or fraction thereof, except that—
   A. Point sources that discharge less than twenty-five thousand (25,000) gpd may only be required to submit an annual report;
   B. Point sources that discharge more than one (1) mgd will be required at a minimum to collect twenty (20) wastewater samples per year unless the applicant can show that the wastewater **effluent has limited variability and produces an effluent that consistently complies with applicable effluent limits**[has a consistent quality, such as once through cooling water or mine dewatering], then the department may set less frequent sampling requirements; **and**
   C. Sludge sampling will be established in the permit**.***[; and*
   D. A minimum of one (1) sample shall be collected for E. coli analysis each week during the recreational season from April 1 through October 31. Compliance with the E. coli water quality standard established in paragraph (4)(C)2. of 10 CSR 20-7.031 shall be determined each calendar month by

calculating the geometric mean of all of the samples collected each calendar month].

2. Sampling frequency shall be **representative of the discharge during the period the sampling covers (daily, weekly, monthly, seasonally, etc.)***[spread evenly throughout the discharge year. This means that a point source with a continuous discharge shall collect samples on a regular evenly spaced schedule, while point sources with seasonal discharges shall collect samples evenly spaced during the season of discharge]*.
3. Sample types shall be as follows:
   A. Samples collected from lagoons may be grab samples;
   B. Samples collected from mechanical plants shall be twenty-four (24)-hour composite samples, unless otherwise specified in the operating permit; and
   C. Sludge samples shall be a grab sample unless otherwise specified in the operating permit.
4. The monitoring frequency and sample types stated in*[paragraph (8)(C)3.]* **subsection (8)(B)** of this rule are minimum requirements. The permit writer shall establish monitoring frequencies and sampling types to fulfill the site-specific informational needs of the department.

(9) General Conditions.

(A) **Establishing Effluent Limitations. Operating Permits as required under 10 CSR 20-6.010(5) shall include, if applicable, the most protective limits set forth as follows:**

1. Technology-based effluent limits and standards based on specific requirements under sections (2) through (8) of this rule,

2. Water quality-based effluent limits based on a waste load allocation in accordance with federal regulations (40 CFR 122.44(d)(1)), which have a reasonable potential to cause or contribute to an excursion above Water Quality Standards established in 10 CSR 20-7.031 for both numeric and narrative criteria. The Director shall develop and maintain guidance and methods for determining water quality-based effluent limits.

A. Local effluent and receiving water data may be used to develop site specific effluent limits (e.g. in-stream hardness for the development of site-specific metals limits) provided the department determines that this data is representative.

B. Mixing zones and zones of initial dilution as provided for in 10 CSR 20-7.031(4)(A)4.B. may be sought by applicants that are based on stream flows other than critical low-flow conditions if the following conditions are met:

(I) The limits are based on critical low-flow conditions, as well as any variable limitations based on higher-flow conditions,

(II) In the case of existing discharges, flow-variable limits shall not allow the discharge to increase its pollutant loading from levels it has previously been able to achieve, and

(III) The permit shall require in-stream flow measurements and methods.

3. Effluent limit guidelines or standards that have been federally promulgated under sections 301, 304, 306, 307, 318 and 405 of the Clean Water Act.

4. Effluent limits prescribed for specific pollutants under a Total Maximum Daily Load (TMDL), as required under the Section 303(d)(1)(C) of the Clean Water Act, necessary to implement water quality standards, including permit limits in lieu of a TMDL. TMDL requirements shall be placed in permits at renewal. These requirements shall reflect appropriate compliance schedules and technology, or follow the TMDL implementation plan if one has been developed.

5. Effluent limits that are developed through the antidegradation review process, provided there is reasonable potential to exceed these limits, including No Degradation Effluent Limits (NDELs), Minimally Degrading Effluent Limits (MDELs), and Preferred

Alternative Effluent Limits (PELs) that are associated with the selection of a preferred alternative.

6. Effluent limits prescribed for stormwater discharges as required under 10 CSR 20-6.200 Storm Water Regulations, and

7. Effluent Limits that are required as a result of legal agreements between dischargers and the department or the Clean Water Commission or are the result of formal variances from Water Quality Standards that are approved by the Clean Water Commission.

(B) pH and Bacteria and Nutrient limits. Operating Permits as required under 10 CSR 20-6.010(5) shall include, if applicable, the following pH, bacteria and nutrient limits:

1. pH shall be maintained in the range from six and one-half to nine (6.5–9.0) standard units except for those facilities with limits established under paragraph (9)(I)1. of this rule or other exceptions for lagoons as provided in subparagraphs (2)(A)2.A. and (8)(A)2.A. of this rule;

2. Bacteria. The following water quality *Escherichia coli (E. coli)* discharge limits apply:

A. Discharges to stream segments designated in Table H of 10 CSR 20-7.031 shall not exceed the water quality *E. coli* counts established in subsection (4)(C) of 10 CSR 20-7.031;

B. Discharges to lakes designated as whole body contact recreational or secondary contact recreational in Table G of 10 CSR 20-7.031 shall not exceed the water quality *E. coli* counts established in subsection (4)(C) of 10 CSR 20-7.031;

C. Discharges to privately-owned lakes classified as L3, as defined in subsection (1)(F) of 10 CSR 20-7.031, that are designated as whole body contact recreational or secondary contact recreational in Table G of 10 CSR 20-7.031 shall not exceed the water quality *E. coli* counts established in subsection (4)(C) of 10 CSR 20-7.031. Discharges include releases into streams one-half (1/2) stream mile (.80 km) before the

stream enters the lake as measured to its normal full pool;

D. Discharges located within two (2) miles upstream of stream segments or lakes designated for whole body contact recreational or secondary contact recreational in Tables H and G of 10 CSR 20-7.031 shall not exceed the water quality *E. coli* counts established in subsection (4)(C) of 10 CSR 20-7.031 for the receiving stream segment or lake designated for those uses;

E. Short-term *E. coli* limits. During the recreation season, discharges to waters designated for whole body contact (A) as defined in paragraph (1)(C)8. of 10 CSR 20-7.031 shall be limited to six hundred thirty (630) colony forming units per one hundred (100) milliliters (ml) expressed as a weekly geometric mean for POTWs and as a daily maximum for non-POTWs. During the recreation season, discharges to waters designated for whole body contact (B) as defined in paragraph (1)(C)8. of 10 CSR 20-7.031 shall be limited to one thousand thirty (1,030) colony forming units per one hundred (100) ml expressed as a weekly geometric mean for POTWs and as a daily maximum for non-POTWs. During the recreation season, discharges to waters designated for secondary contact recreational as defined in paragraph (1)(C)9. of 10 CSR 20-7.031 shall be limited to one thousand one hundred thirty-four (1,134) colony forming units per one hundred (100) ml expressed as a weekly geometric mean for POTWs and as a daily maximum for non-POTWs. For the entire calendar year, discharges to waters that are defined by paragraph (1)(A)3. of this rule as losing streams shall be limited to one hundred twenty-six (126) colony forming units per one hundred (100) ml expressed as a daily maximum; and

F. As an alternative to the limits prescribed in subparagraphs (9)(B)2.A. through E., the department may allow permit applicants to conduct a study to develop *E. coli* limits that reflect pathogen decay. Prior to conducting this study applicants shall submit a quality assurance project plan for approval prior to the study, and submit all findings as part of their permit application.

3. Nutrients. Reserved for Nutrient Effluent Limits.

(C) Schedules of Compliance.

1. Permits may contain schedules of compliance requiring the permittee to take specific steps to achieve expeditious compliance with applicable standards and limitations and other requirements. Schedules of compliance shall require compliance as soon as practicable, but in no case later than an applicable statutory deadline.

2. If any permit allows a time for achieving final compliance from the date of permit issuance, the schedule of compliance in the permit shall set forth interim requirements and the dates for their achievement.

3. Within fourteen (14) days following each interim date and the final date of compliance, the permittee shall provide the department with written notice of the permittee's compliance or noncompliance with the interim or final requirement for the dates.

4. The department may modify a schedule of compliance in an issued permit. Applicants may request a modification by providing appropriate justification. In no case shall the compliance schedule be modified to extend beyond an applicable statutory deadline.

(D) Monitoring, Analysis, and Reporting.

1. All construction and operating permit holders shall submit reports at intervals established by the permit or at any other reasonable intervals required by the department. The monitoring and analytical schedule shall be as established by the department in the operating permit.

2. The analytical and sampling methods used must conform to the following reference methods unless alternates are approved by the department:
   A. *Standard Methods for the Examination of Waters and Wastewaters* (14, 15, 16, 17, 18, 19, 20, and 21st Edition), published by the Water Environment Federation, 601 Wythe Street, Alexandria, VA 22314;
   B. *Water Testing Standards, Vol. 11.01 and 11.02,* published by American Society for Testing and Materials, West Conshohocken, PA 19428;
   C. *Methods for Chemical Analysis of Water and Wastes* (EPA-600/4-79-020), published by the Environmental Protection Agency, Water Quality Office, Analytical Quality Control Laboratory, 1014 Broadway, Cincinnati, OH 54202; and
   D. *NPDES Compliance Sampling Inspection Manual*, Report no. MCD-51, published by Environmental Protection Agency, Enforcement Division, Office of Water Enforcement, 401 Main Street SW, Washington, DC 20460.
3. Sampling and analysis by the department to determine violations of this regulation will be conducted in accordance with the methods listed in paragraph (9)(*[A]***D**)2. of this rule or any other approved by the department. Violations may be also determined by review of the permittee's self-monitoring reports. Analysis conducted by the permittee or his/her laboratory shall be conducted in such a way that the precision and accuracy of the analyzed results can be determined.
4. If, for any reason, the permittee does not comply with or will be unable to comply with any discharge limitations or standards specified in the permit, the permittee shall provide the department with the following information, with the next discharge monitoring report as required under subsection (9)(*[A]***D**) of this rule:
   A. A description of the discharge and cause of noncompliance;

B. The period of noncompliance, including exact dates and times and/or the anticipated time when the discharge will return to compliance; and

C. The steps being taken to reduce, eliminate, and prevent recurrence of the noncompliance.

5. In the case of any discharge subject to any applicable toxic pollutant effluent standard under section 307(a) of the federal Clean Water Act, the information required by paragraph (9)(*[A]***D**)4. of this rule regarding a violation of this standard shall be provided within twenty-four (24) hours from the time the owner or operator of the water contaminant source, point source, or wastewater treatment facility becomes aware of the violation or potential violation. **This information may be provided via an electronic web-based system developed by the department, provided it is available.** If this information is provided orally, a written submission covering these points shall be provided within five (5) working days of the time the owner or operator of the water contaminant source, point source, or wastewater treatment facility becomes aware of the violation.

6. Bacteria Monitoring for Disinfection.

A. For systems that have a design capacity of greater than one hundred thousand (100,000) gpd, a minimum of one (1) sample shall be collected for *E. coli* analysis each calendar week during the recreational season from April 1 through October 31. The sampling frequency for *E. coli* analysis may be more often than weekly in accordance with the wastewater and sludge sampling program based on the design flow which is dependent upon the receiving water category as listed in subsection (A)(1) of this rule. Compliance with the *E. coli* water quality standard established in subsection (4)(C) of 10 CSR 20-7.031 shall be determined each calendar month by calculating the geometric mean of all of the samples collected each calendar month. Compliance with the short-term *E. coli* limits established in

subparagraph (9)(B)2.E. of this rule shall also be determined.

B. For systems that discharge to stream segments that are defined by paragraph (1)(A)3. as losing streams and have a design capacity of greater than one hundred thousand (100,000) gpd, a minimum of one (1) sample shall be collected for *E. coli* analysis each calendar week all year. The sampling frequency for *E. coli* analysis may be more often than weekly in accordance with the wastewater and sludge sampling program required under subsection (4)(C) of this rule. Compliance with the *E. coli* water quality standard established in subsection (4)(C) of 10 CSR 20-7.031 and with the short term *E. coli* limits established in subparagraph (9)(B)2.E. of this rule shall also be determined.

C. For systems that have a design capacity of one hundred thousand (100,000) gpd or less, the sampling frequency for *E. coli* analysis shall be in accordance with the wastewater and sludge sampling program based on the design flow which is dependent upon the receiving water category as listed in subsection (A)(1) of this rule. Compliance with the *E. coli* water quality standard established in subsection (4)(C) of 10 CSR 20-7.031 shall be determined each calendar month by calculating the geometric mean of all of the samples collected each calendar month. Compliance with the short-term *E. coli* limits established in subparagraph (9)(B)2.E. of this rule shall also be determined.

7. Monitoring for Nutrients.

A. Upon operating permit issuance facilities that typically discharge nitrogen and phosphorus shall collect and analyze a minimum of one (1) effluent sample each calendar quarter for a minimum of one permit cycle (five years). The nutrient sampling frequency may be more often than quarterly in accordance with the

wastewater and sludge sampling program based on the design flow which is dependent upon the receiving water category as listed in subsection (A)(1) of this rule

(*[B]***E**) Dilution Water. Dilution of treated wastewater with cooling water or other less contaminated water to lower the effluent concentration to limits required by an effluent regulation of the Clean Water Law shall not be an acceptable means of treatment.

(*[C) Compliance.*

1. New sources. Water contaminant sources, point sources, and wastewater treatment facilities and their tributary sewer systems on which construction begins after the effective date of the applicable effluent guidelines shall meet all requirements of this regulation and the Missouri Clean Water Law.

2. Sources for which construction and operating permits were issued prior to the effective date of this regulation shall meet all the requirements of the existing permit. Where the existing permit contains more stringent limitations than those contained in this regulation, the permittee may apply to the department for a modification of the permit to contain the new limitations. The department will notify the applicant of its decision to modify or deny the application within sixty (60) days after receiving an application.

*(D]***F**) Compliance with New Source Performance Standards.

1. Except as provided in paragraph (9)(*[D]***F**)2. of this rule, any new water contaminant source, point source, or wastewater treatment facility on which construction commenced after October 18, 1972, or any new source, which meets the applicable promulgated new source performance standards before the commencement of discharge, shall not be subject to any more stringent new source performance standards or to any more stringent technology-based standards under subsection 301(b)(2) of the federal Clean Water Act for the shortest of the following periods:
   A. Ten (10) years from the date that construction is completed;

B. Ten (10) years from the date the source begins to discharge process or other nonconstruction related wastewater; or

C. The period of depreciation or amortization of the facility for the purposes of section 167 or 169 (or both) of the *Internal Revenue Code* of 1954.

2. The protection from more stringent standards of performance afforded by paragraph (9)(*[D]***F**)1. of this rule does not apply to—

A. Additional or more stringent permit conditions which are not technology based, for example, conditions based on water quality standards or effluent standards or prohibitions under section 307(a) of the federal Clean Water Act; and

B. Additional permit conditions controlling pollutants listed as toxic under section 307(a) of the federal Clean Water Act or as hazardous substances under section 311 of the federal Clean Water Act and which are not controlled by new source performance standards. This exclusion includes permit conditions controlling pollutants other than those identified as hazardous where control of those other pollutants has been specifically identified as the method to control the hazardous pollutant.

(*[E]***G**) Bypass*[ing]*.

[1. Any bypass or shutdown of a wastewater treatment facility and tributary sewer system or any part of a facility and sewer system that results in a violation of permit limits or conditions is prohibited except—

A. Where unavoidable to prevent loss of life, personal injury, or property damages;

B. Where unavoidable excessive storm drainage or runoff would damage any facilities or processes necessary for compliance with the effluent limitations and conditions of this permit; and

C. Where maintenance is necessary to ensure efficient operation and alternative measures have been taken to maintain effluent quality during the period of maintenance;

2. The permittee shall notify the department by telephone within twenty-four (24) hours and follow with a written report within five (5) days of all bypasses or shutdowns that result in a violation of permit limits or conditions. POTWs that bypass during storm water infiltration events need only report on their discharge monitoring reports. This section does not excuse any person from any liability, unless this relief is otherwise provided by the statute.]

1. Bypass means the intentional diversion of waste streams from any portion of a treatment facility. Severe property damage means substantial physical damage to property, damage to the treatment facilities which causes them to become inoperable, or substantial and permanent loss of natural resources which can reasonably be expected to occur in the absence of a bypass. Severe property damage does not mean economic loss caused by delays in production.

2. Bypass not exceeding limitations. The permittee may allow any bypass to occur which does not cause effluent limitations to be exceeded, but only if it also is for essential maintenance to assure efficient operation. These bypasses are not subject to the provisions of paragraphs (9)(G)3. and 4. of this rule.

3. Notice.

A. Anticipated bypass. If the permittee knows in advance of the need for a bypass, it shall submit prior notice to the department, if possible at least ten days before the date of the bypass.

B. Unanticipated bypass. The permittee shall notify the department by telephone within twenty-four (24) hours and follow with a written report within five (5) days of all bypasses or shutdowns that result in a violation of permit limits or conditions. This information may be provided via an electronic web-based system developed by the department, provided it is available. POTWs that bypass during storm water inflow events need only report on their discharge monitoring reports. This section does

not excuse any person from any liability, unless this relief is otherwise provided by the statute.

4. Prohibition of bypass. Bypass is prohibited, and the department may take enforcement action against a permittee for bypass, unless:

A. Bypass was unavoidable to prevent loss of life, personal injury, or severe property damage;

B. There were no feasible alternatives to the bypass, such as the use of auxiliary treatment facilities, retention of untreated wastes, or maintenance during normal periods of equipment downtime. This condition is not satisfied if adequate back-up equipment should have been installed in the exercise of reasonable engineering judgment to prevent a bypass which occurred during normal periods of equipment downtime or preventive maintenance; and

C. The permittee submitted notices as required under paragraph (9)(G)(3) of this rule.

5. The department may approve an anticipated bypass, after considering its adverse effects, if the department determines that it will meet the three conditions listed in paragraph (9)(G)4. of this rule.

6. A sanitary sewer overflow is any unpermitted release of untreated wastewater from a collection system. Sanitary sewer overflows shall be reported.

7. The permittee shall notify the department by telephone within twenty-four (24) hours of becoming aware of a sanitary sewer overflow occurrence and follow with a written report within five (5) days. This information may be provided via an electronic web-based system developed by the department, provided it is available.

(*[F]***H**) Sludge facilities shall meet the applicable control technology for sewage sludge treatment, use, and disposal as published by the EPA in 40 CFR 503 and applicable state standards and limitations published in 10 CSR 20 and 10 CSR 80. Where there are no standards available or applicable, or when more stringent standards are appropriate to protect human

health and the environment, the department shall set specific limitations in permits on a case-by-case basis using best professional judgment.

(*[G]***I**) Industrial, agricultural, and other nondomestic water contaminant sources, point sources, or wastewater treatment facilities which are not included under subsection (2)(B), (3)(B), (4)(B), or (8)(B) of this rule—

1. These facilities shall meet the applicable control technology currently effective as published by the EPA in 40 CFR 405–471. Where there are no standards available or applicable, the department shall set specific parameter limitations using best professional judgment. pH shall be maintained in the range from six and one-half to nine (6.5–9.0) standard units, except that discharges of uncontaminated cooling water and water treatment plant effluent may exceed nine (9) standard units, but may not exceed ten and one-half (10.5) standard units, if it can be demonstrated that the pH will not exceed nine (9) standard units beyond the regulatory mixing zone; and
2. Agrichemical facilities shall be designed and constructed so that all bulk liquid pesticide nonmobile storage containers and all bulk liquid fertilizer nonmobile storage containers are located within a secondary containment facility. Dry bulk pesticides and dry bulk fertilizers shall be stored in a building so that they are protected from the weather. The floors of the buildings shall be constructed of an approved design and material(s). At an agrichemical facility, the following procedures shall be conducted in an operational area: all transferring, loading, unloading, mixing, and repackaging of bulk agrichemicals. All precipitation collected in the operational containment area or secondary containment area as well as process generated wastewater shall be stored and disposed of in a no-discharge manner or treated to meet the applicable control technology referenced in paragraph (9)(*[G]***I**)1. of this rule.

(*[H]***J**) *[Implementation Schedule for Protection of Whole Body Contact and Secondary Contact Recreation.*

1. For all existing wastewater discharges containing bacteria, the department shall, upon the issuance or first

renewal or first significant modification of each permit, include within each permit a compliance schedule that provides up to five (5) years for the permittee to meet permit limits. Permitted facilities may present an evaluation sufficient to show that disinfection is not required to protect one (1) or both designated recreational uses. A use attainability analysis (UAA) may be conducted to demonstrate one (1) or both designated recreational uses are not attainable in the classified waters receiving the effluent.

2. *Notwithstanding the provisions of paragraph (9)(H)1. of this rule, all permits shall insure compliance with effluent limits to protect whole body contact and secondary contact recreation by no later than December 31, 2013, unless the permittee presents an evaluation sufficient to show that disinfection is not required to protect one (1) or both designated recreational uses, or a UAA demonstrates that one (1) or both designated recreational uses are not attainable in the classified waters receiving the effluent.]*

(I)] Temporary Suspension of Accountability for Bacteria Standards during Wet Weather. The accountability for bacteria standards may be temporarily suspended for specific discharges when conditions contained in paragraphs (9)(*[I]***J**)1. through 3. of this rule are met.

1. No existing recreational uses downstream of the discharge will be impacted during the period of suspension as confirmed through a water quality review for reasonable potential for downstream impacts and a UAA performed in accordance with the *Missouri Recreational Use Attainability Analysis Protocol* approved by the Missouri Clean Water Commission.
2. The period of suspension must be restricted to the defined wet weather event that corresponds to the period when recreational uses are unattainable. The period must be determinable at any time by the discharger and the general public (such as from stream depth or flow readings or other stream conditions on which publicly accessible records are kept).

3. The suspension shall be subject to public review and comment, Missouri Clean Water Commission approval, and EPA approval before becoming effective and shall be contained as a condition in a discharge permit or other written document developed through public participation.

(K) Whole Effluent Toxicity (WET) Test. A WET test is a quantifiable method of determining the degree at which a discharge from a facility may be causing toxicity to aquatic life by itself, in combination with or through synergistic responses when mixed with receiving water body. The following are permit requirements for acute and chronic WET tests.

1. WET tests are required under 10 CSR 20-6.010(8)(A)4 to be performed by specialists who are properly trained in conducting the test according to the methods prescribed by the code of federal regulations as referenced in 40 CFR 136.3.

2. Test Types.

A. Acute WET tests shall be a multiple dilution series, static, non-renewal test to determine the degree at which acute (48-96 hour) exposure to the effluent is acutely toxic to aquatic life or to derive a more quantifiable endpoint expressed in species survival.

B. Chronic WET test shall be a multiple dilution series, static, renewal test to determine the degree at which chronic (sub lethal) exposure to the effluent is toxic to aquatic life or to derive a more quantifiable endpoint expressed in species reproduction and or growth. Duration of chronic WET tests shall be established according to CFR 136.3.

3. Applicability. WET test type and frequency shall be determined and expressed in permit by the Department. At permit issuance or reissuance, the Department will use all valid and representative data to establish on a case-by-case basis, a best professional judgment determination, whether an existing discharge causes, has the reasonable potential to cause, or contributes to an excursion from the

narrative water quality criteria. Where the department concludes that a discharge has the reasonable potential to contribute to an excursion from the narrative water quality criteria, as established in 10 CSR 20-7.031(3)(d) the permit will include WET limits. If the department determines the facility has no reasonable potential to violate water quality standards, WET testing may be removed, or if more information is required, WET testing may be retained at a reduced frequency. WET test applicability for NPDES permits shall be fully addressed in the permit factsheet.

4. Specifications.

A. A dilution series shall be established in the permit for WET test. The dilution series shall be a set of proportional effluent dilutions based on an Allowable Effluent Concentration (AEC).

B. All WET tests shall be performed with *Pimephales promelas* (a fathead minnow) and *Ceriodaphnia dubia* (a water flea), except facilities which discharge to receiving streams designated as cold-water sport fisheries. Facilities which discharge to receiving streams designated as cold water sport fisheries may be required to perform WET tests using *Oncorhynchus mykiss* (rainbow trout) instead of the fathead minnow. Other test species for which test methods are provided in 40 CFR 136.3 may be approved by the department on a case by case basis. Alternative species shall be approved in accordance with the procedures in 40 CFR 136.4.

C. A Toxic Unit (TU) water quality based limit shall be established in the permit for WET test where the department concludes that a discharge has the reasonable potential to cause or contribute to an excursion from the narrative water quality criteria as established in 10 CSR20-7.031(3)(D). The TU limit shall be determined in accordance with 40 CFR

122.44(d)(1)(v) and utilizing the methods established in Technical Support Document For Water Quality-based Toxics Control (March 1991, EPA, EPA/505/2-90-001) and documented in the factsheet. Exceedance of a TU limit shall be a WET test failure.

D. Unless waived by the department, if a permittee fails a required WET test, the permittee shall begin accelerated monitoring consistent with the conditions in their permit. Once the permittee passes 3 consecutive WET tests, the permittee returns to the testing schedule contained in the permit. Intermittent toxicity shall not be considered sufficient reason for granting of a waiver.

E. Unless waived by the Department, a Toxic Identification Evaluation (TIE) and a subsequent Toxic Reduction Evaluation (TRE) shall be required where persistent toxicity is demonstrated by WET tests. A Toxicity Identification Evaluation (TIE) and/or Toxicity Reduction Evaluation (TRE) may be triggered when: a total of three (3) Multiple Dilution test fail for an outfall when the 3 failures are part of a series being run due to an initial failure, OR, a total of four (4) Multiple Dilution tests fail for an outfall in any 12 month period. When one species fails, both species must be retested, unless prior approval has been granted by the Department. Prior to TIE and TRE initiation, a work plan must be submitted to the Department for approval. A TRE shall include technologies, treatments, and schedules to eliminate identified toxicity.

F. Upon completion of a WET test the complete lab report and department form as referenced in the permit shall be submitted by the permittee to the department within the timeframe established by the permit.

(10) Control of Combined Sewer Overflows (CSOs). The permitting and control of CSOs shall conform to EPA's CSO Control Policy, EPA Number 830/B-94-001 (published by EPA April 19, 1994, at 59 Fed. Reg. 18688) as referenced by Section 402 (q) of the Clean Water Act, 33 USC 1342(q). The CSO Control Policy is hereby incorporated by reference, without any later amendments or additions. This document is available by writing to U.S. Environmental Protection Agency, Office of Water Resource Center, Mail Code RC-4100T, 1200 Pennsylvania Avenue NW, Washington, DC 20460 or upon request from the Department of Natural Resources, Water Protection Program, Water Pollution Control Branch, PO Box 176, Jefferson City, MO 65102-0176. Effluent monitoring commitments for CSOs shall be addressed in the long term control plans required under EPA's CSO Control Policy.

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